

BPM v7.5 – Monitoring in Process Designer

Lab Exercise



Lab Number 11

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Lab 11 Monitoring a Business Process

IBM BPM comes with some built-in monitoring capability wherein it writes the values for elements that have been selected for tracking to the Performance Data Warehouse (PDW). The Performance Data Warehouse only receives data from the Business Process Definition (BPD). Users also have the option of purchasing IBM Business Monitor which provides more robust and diversified monitoring capability. IBM Business Monitor models can receive and correlate events from many different applications and sources. IBM Business Monitor also provides dimensional reporting capability utilizing Cognos technology. Many features have been added to IBM BPM v7.5 and IBM Business Monitor v7.5 to enhance their integration. In this lab we will explore the out-of-the-box monitoring capability as well as monitoring utilizing IBM Business Monitor.

Whether you use the out-of-the-box monitoring or IBM Business Monitor, both monitoring options are configured in Process Designer by turning on tracking for variables and processes that you would like to monitor. The monitoring configurations are deployed by using the Update Tracking Definitions menu option. When this menu item is selected the PDW is enabled to receive data from the process and, if IBM Business Monitor is available, it will generate and deploy the Monitor Model which will receive events containing the tracking data. A corresponding Business space is also generated.

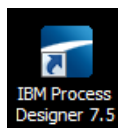
IBM Integration Developer (IID) can also be utilized to generate a Monitor Model. The model generated in IID can be modified in the Monitor Model Toolkit to receive events from sources other than BPM. This is how the developer is given the capability to generate and then modify a Monitor Model to meet needs that are beyond the capability of a generated model. You will learn how to enable, generate and deploy an IBM Business Monitor Model from Process Designer. You will then be exposed to the out-of-the-box Monitoring capabilities. We will not be utilizing the Integration Developer based monitor model development option in this lab.

11.1 Start Up

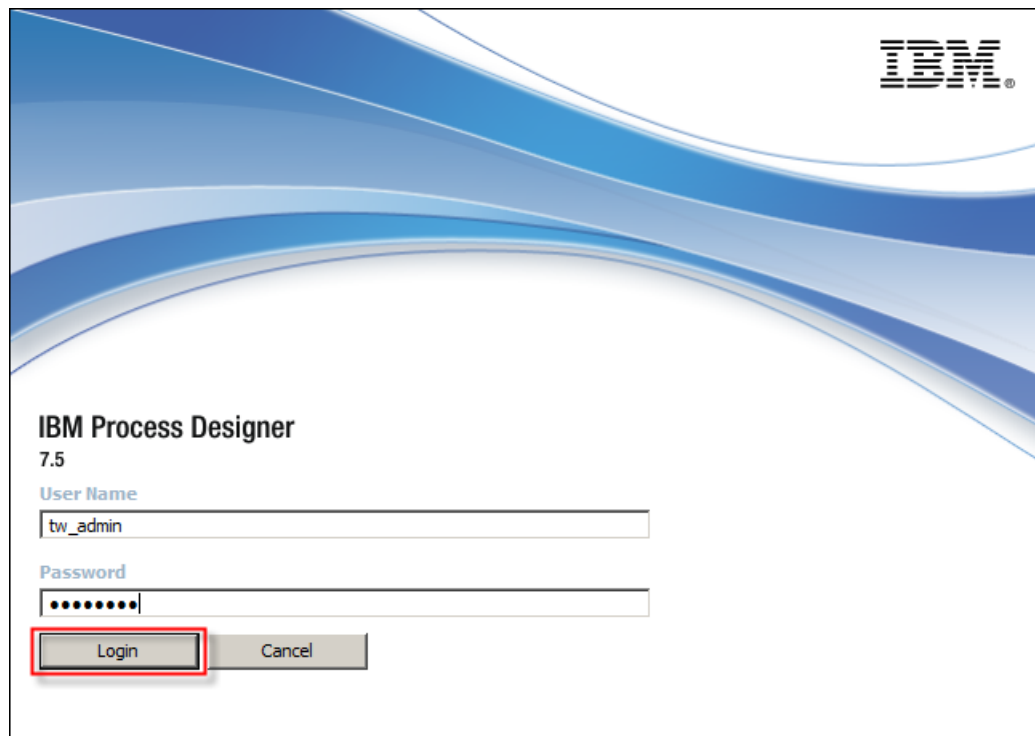
In this section, you will start the IBM Process Designer. If Process Designer is already running skip this session.

11.1.1 Start the Process Designer

1. If the Process Designer is not running, double-click on the *IBM Process Designer* icon on the desktop. It might take a couple of minutes for the login window to appear:



2. Enter *tw_admin* as the user name and as the password, then click *Login*:

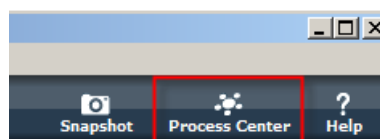


11.2 Part 1 – Import the Toolkit for the Build from Scratch Solution

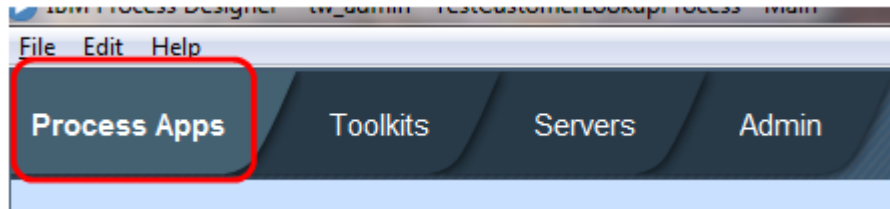
We will import the solution to the Build from Scratch process and build Monitoring from on that process flow. If you already have a tested Build from Scratch process that you would like to use for building monitoring capability then you may skip this section.

11.2.1 Import the Completed Build from Scratch Solution

1. If you are not on the *Process Application* screen, click on the *Process Center* icon in the upper right-hand corner of the window.

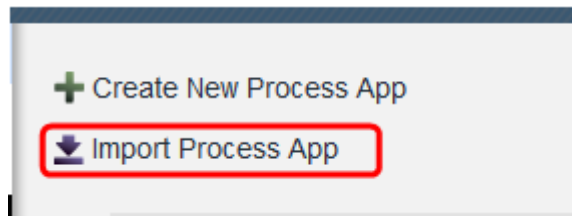


2. Click on the *Process Apps* tab in the upper left-hand corner of the window, and then click on *Import Process App*.



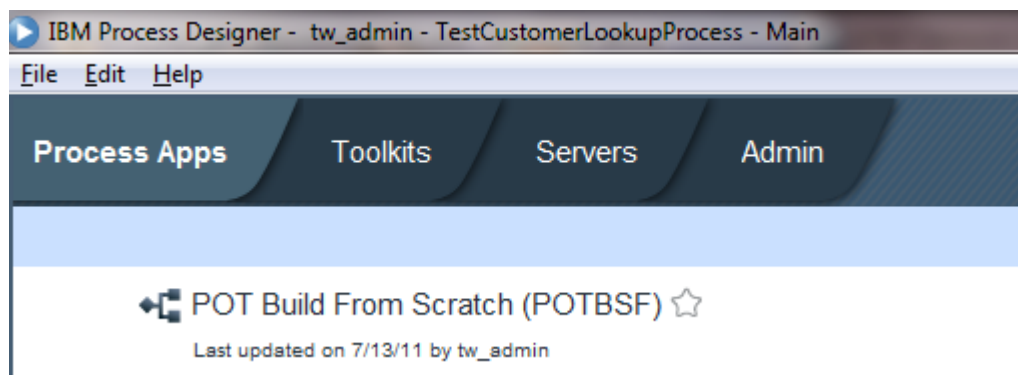
__3. Import the toolkit:

__a.



__b. Browse to c:\labfiles\BFS\POT_Build_From_Scratch_Solution.twx file and import it.

__c. You should now see the application listed in the Process Apps view.

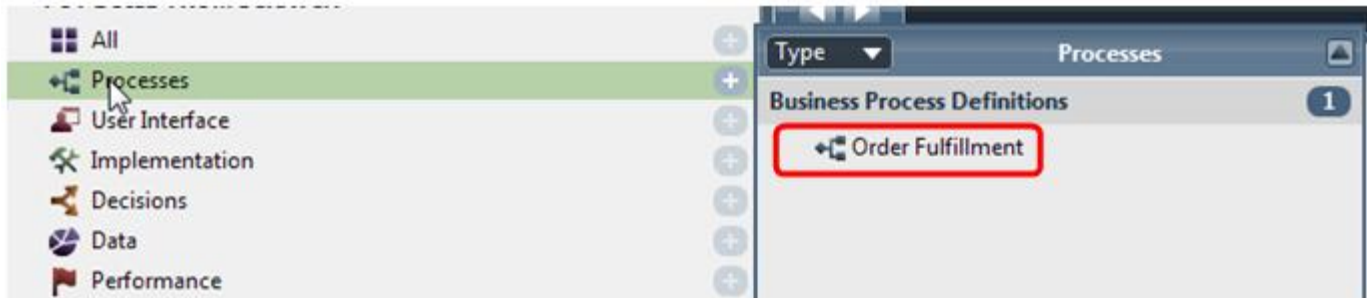


__4. Click on Open in Designer

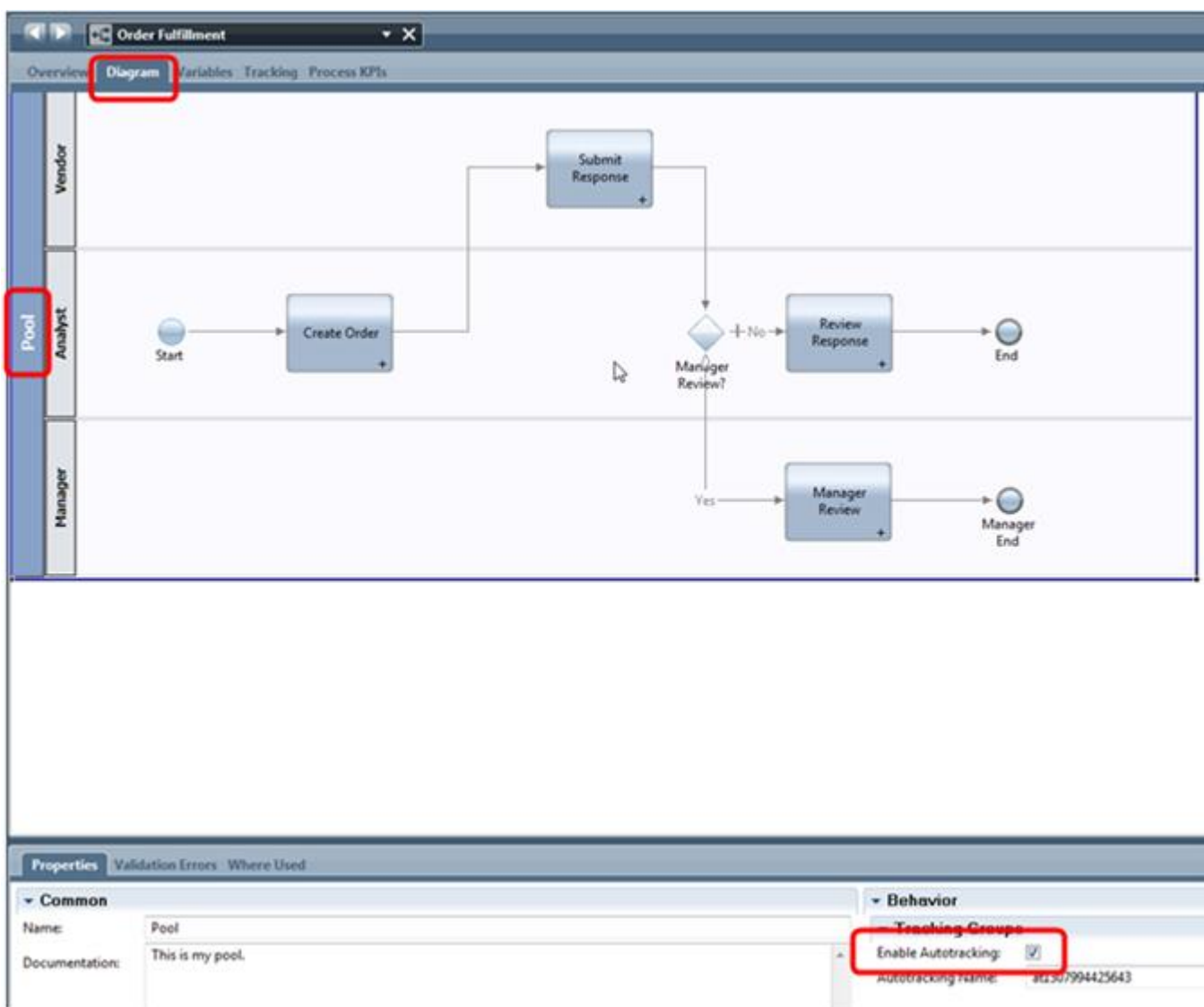
11.3 Turn on Tracking

We will determine which components we want to monitor in the process by turning the tracking attribute on for them. You can turn tracking on for both processes and variables. Turning tracking on for a process will provide metrics and KPIs on duration for the activities and processes. Turning tracking on for variables will produce metrics and KPIs with the variable values.

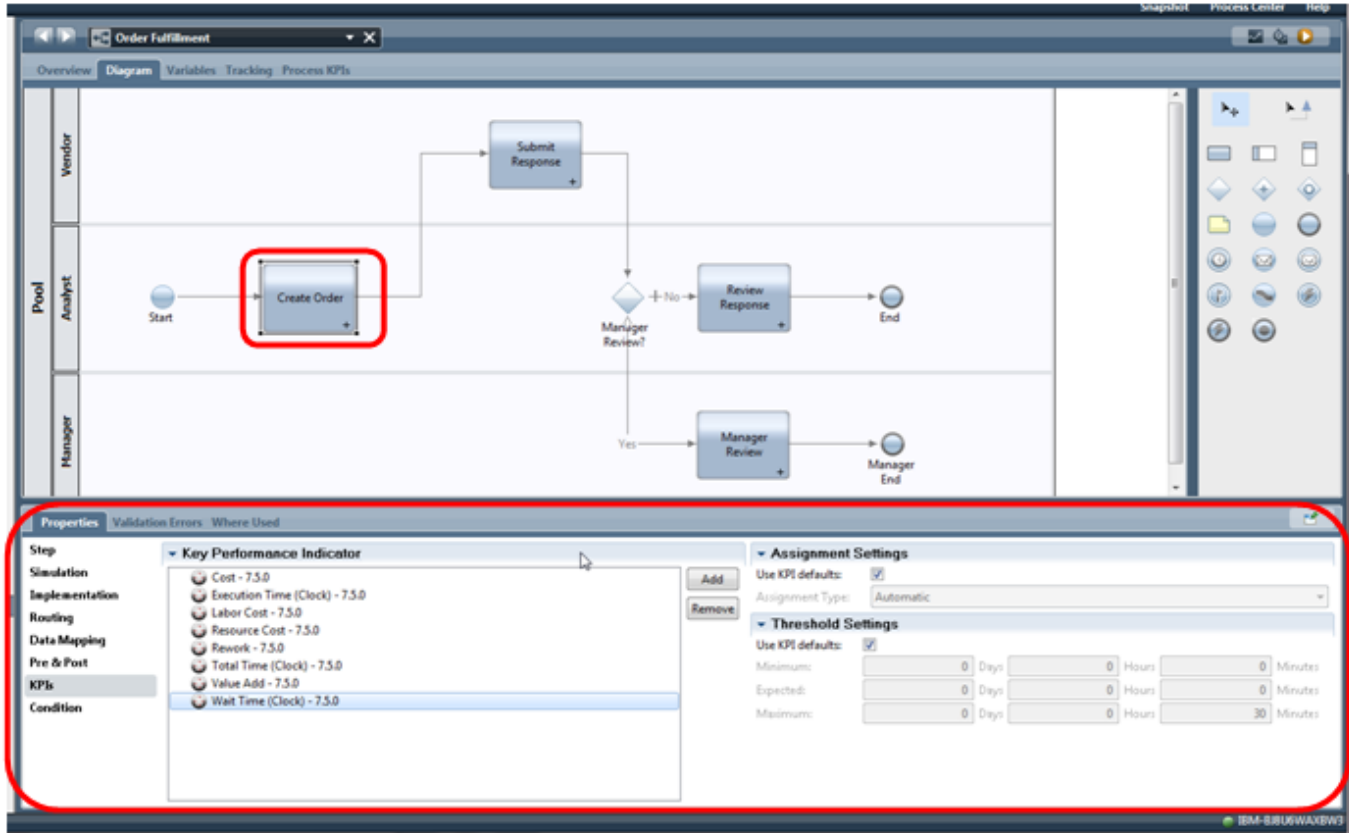
__1. Open the Order Fulfillment Process and select the Diagram tab.



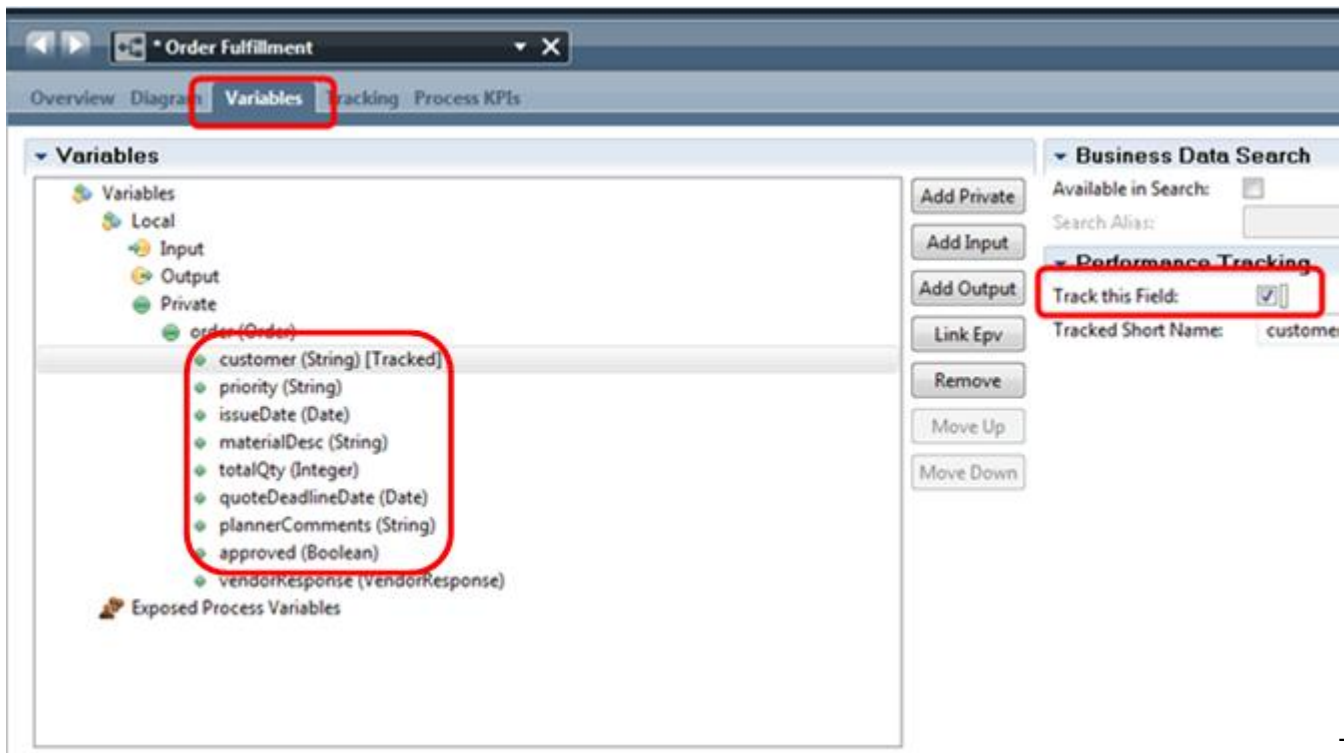
- __2. In the **Diagram** View, select **Pool**
- __3. Check the Enable Autotracking option to turn on tracking for this process.



- __4. Click on each activity to see the default KPIs and ranges that are set for the activities.

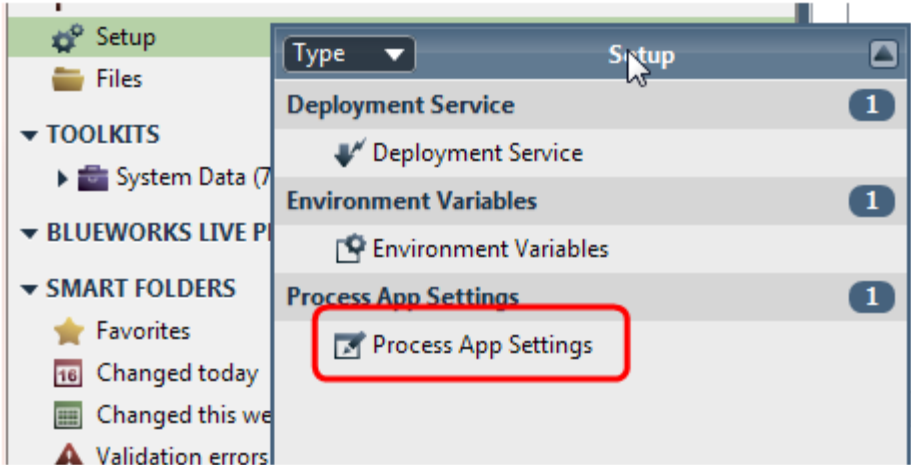
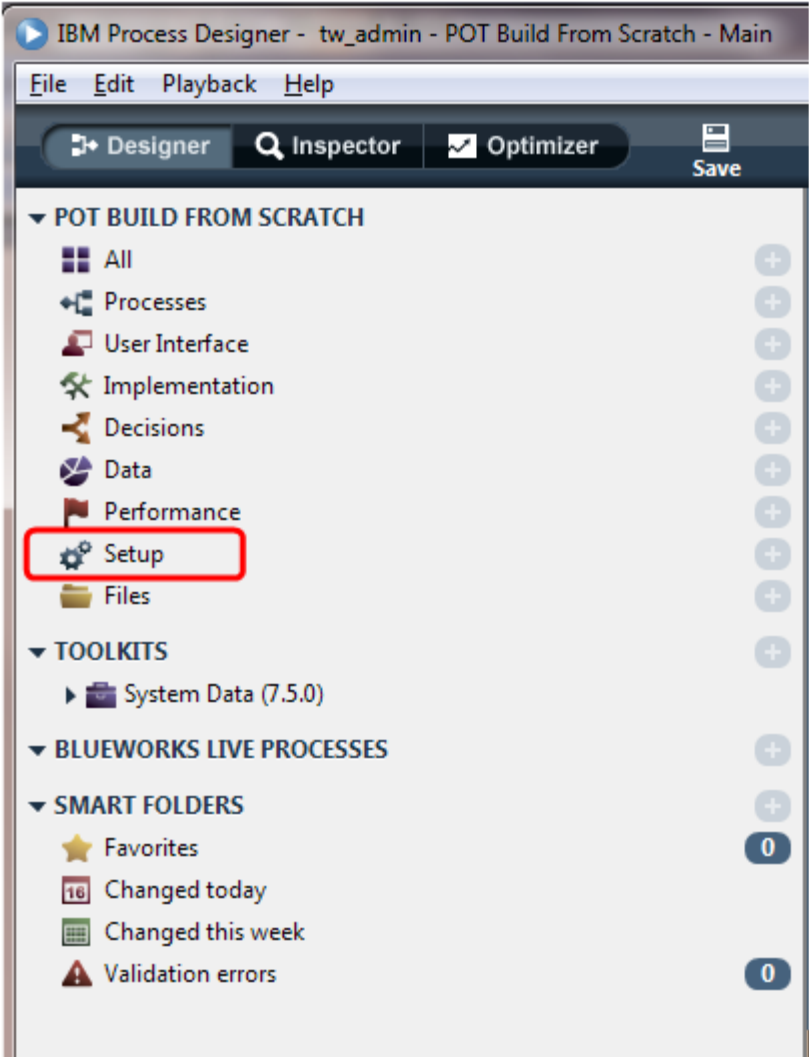


- __5. Turn tracking on for the variables: Select the Variables tab and then click “Track this Variable” checkbox for each variable that you want to provide a metric in Monitor. Turn tracking on for each of the variables highlighted in the diagram below:

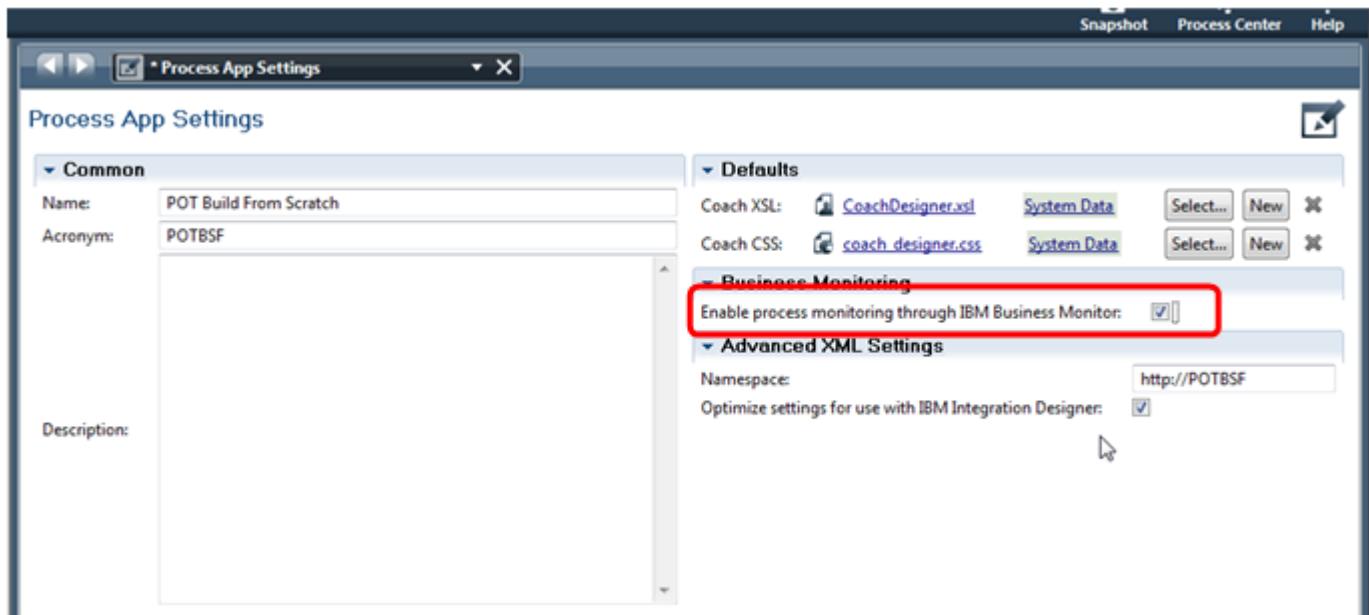


T

- ___6. Turn on the Monitor Enablement Switch. This will tell the Process Server to emit events for the elements which we have switched tracking on. From the menu on the left select Setup for the Order Fulfillment process, then select Process App Settings:

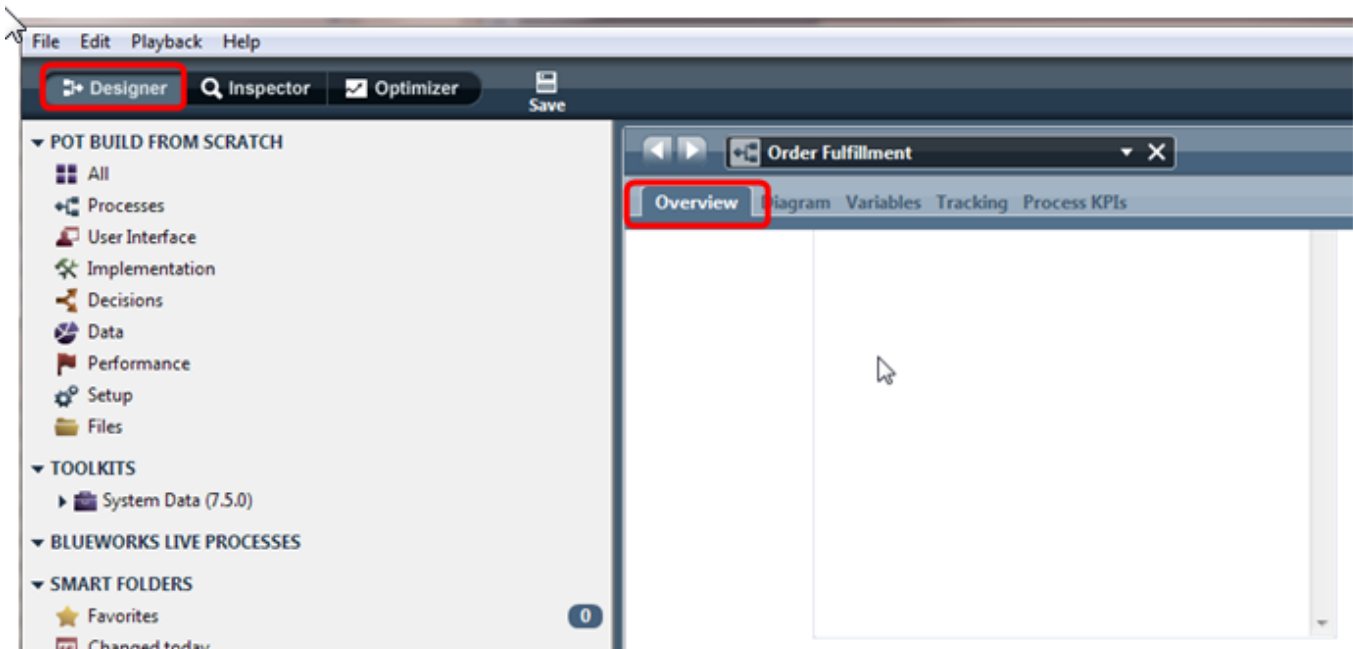


__7. Select Enable Process Monitoring through IBM Business Monitor



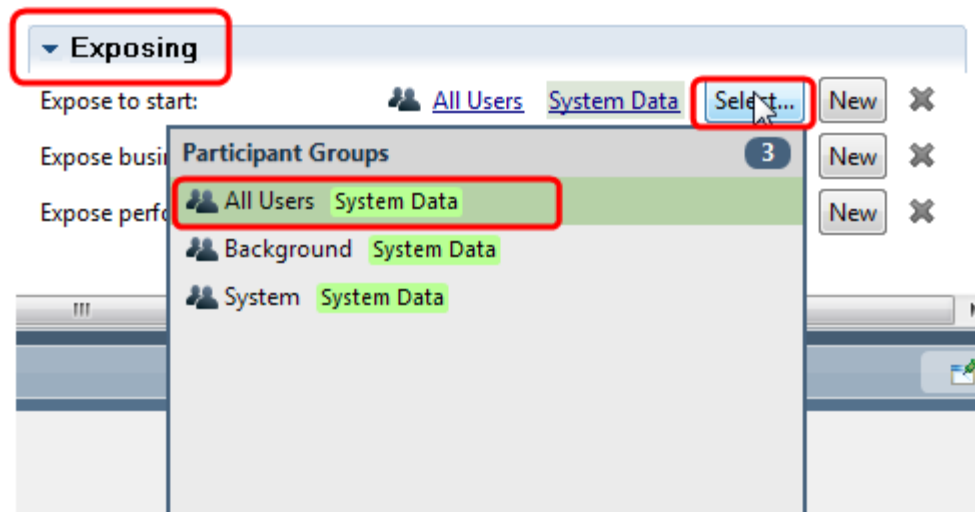
__8. In order to send data to the Process Data Warehouse we must expose the data. This will allow the data to be seen in to Process Portal

__a. Switch to the Overview Tab in the Process Designer



__b. Find the Exposed section on the right and expand it.

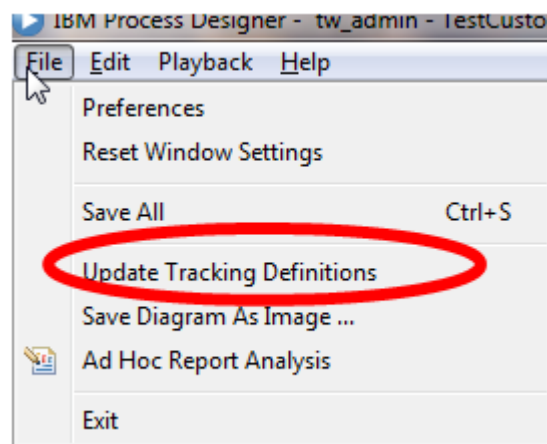
__i. For each of the options, “Expose to start”, “Expose business data” and “Expose performance metrics”, select the Select button and set it to All Users.

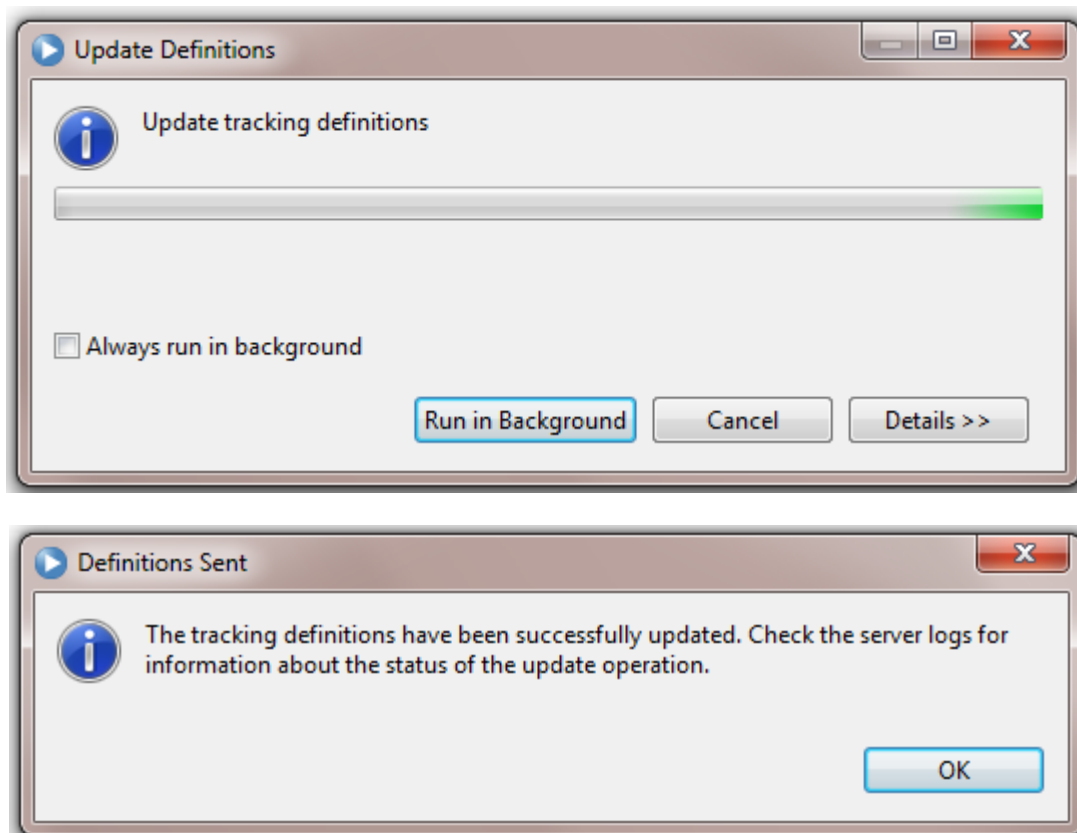


__9. Click Ctrl-S to save your changes.

11.4 Generate and Deploy the Monitor Model

- __1. We will now generate and deploy a Monitor Model and enable the Process Data Warehouse to receive the data we have flagged.
 - __a. From the File Menu select Update Tracking Definitions. The process will run for several minutes. It is doing a lot in the background. It is preparing the Process Data Warehouse, generating a Monitor Model, deploying the Monitor Model and building some Business Space dashboards.

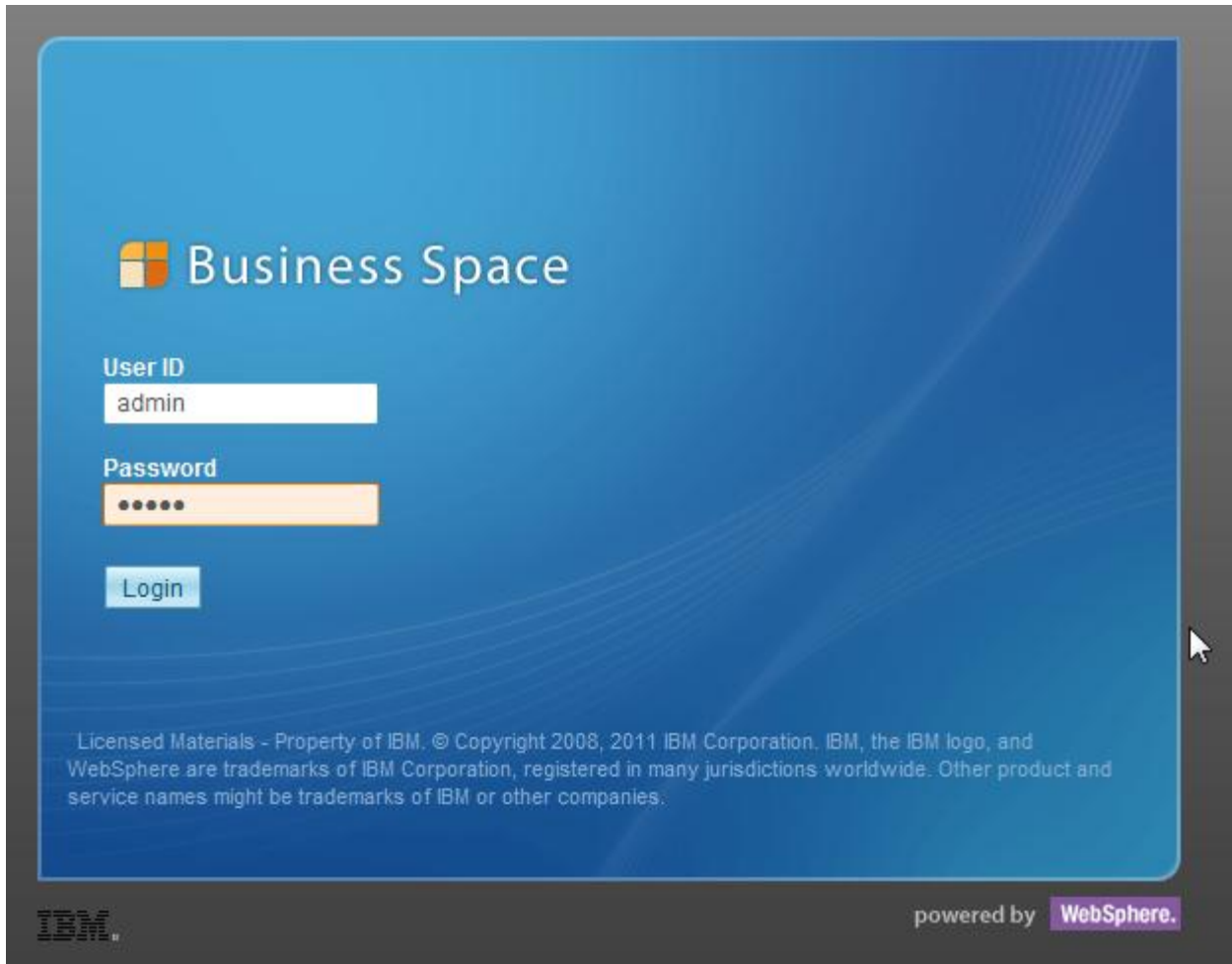




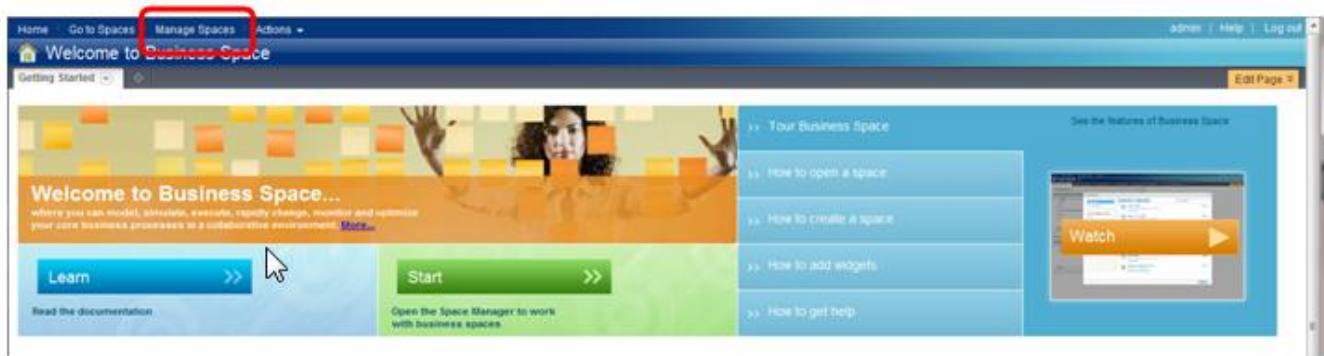
- __2. Run at least 5 instances of the process.

11.5 View the Business Monitor Business Spaces

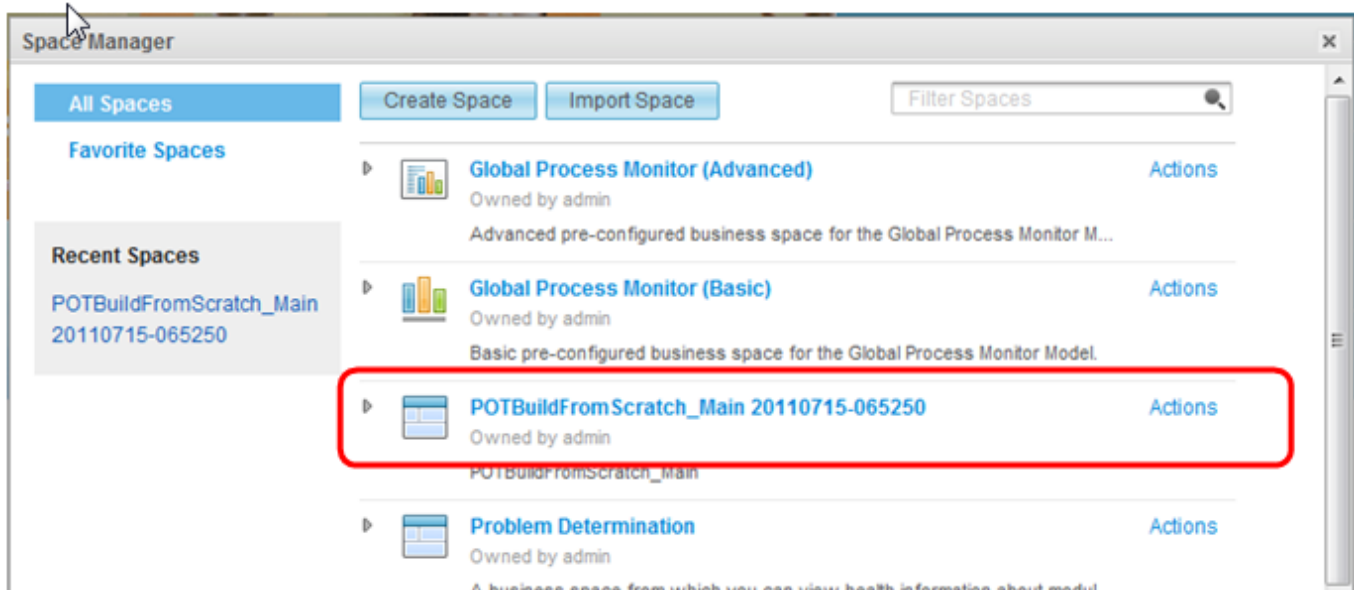
- __1. Bring up Business Space using the following URL: <http://localhost:9080/BusinessSpace>
- __a. Login using admin as the user name and password



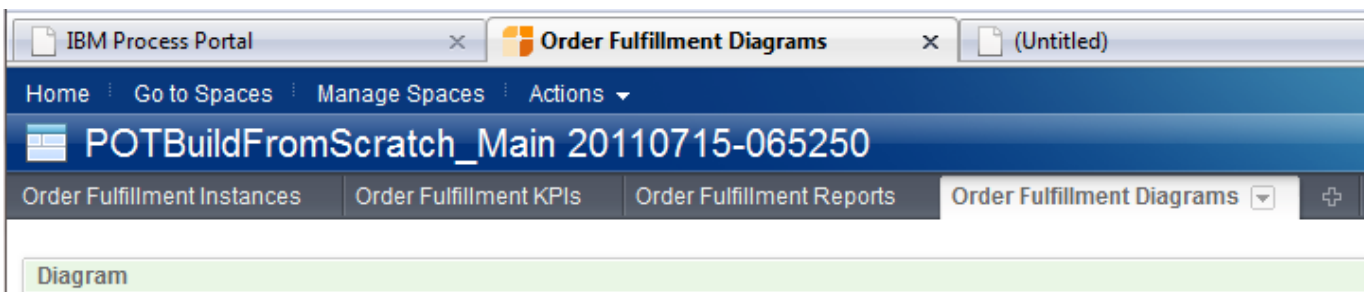
__2. From the main menu select Manage Spaces.



__3. From the Space Manager select POTBuildFromScratch Business Space:



4. You will see that 4 pages have been created for you in the POTBuildFromScratch business space – Order Fulfillment Instances, Order Fulfillment KPIs, Order Fulfillment Reports and Order Fulfillment Diagrams.
- a. Click on the tabs for each of these Spaces to see the Monitoring functionality that you have created. We will explore each of the pages but take a deep dive into the KPI page to give you an idea of how you reconfigure the pages to better suit your needs. Feel free if you have time to play around with the settings on all of the pages.



5. Order Fulfillment Instances shows a list of all the instances of the process that have been run. The list is chronologically ordered, with the latest first. You will see columns for the metrics that you enabled to be monitored, customer, priority, issueDate etc. You can edit the Business Space page and modify which metrics are displayed.

Order Fulfillment Instances

Export... Show

Order Fulfillment

Order Fulfillment Ins...	Start Time	End Time	customer	priority	issueDate	materialDesc	totalQty	quoteDeadlineDate	plannerComments	approved	Total Time (Clock
66bf0abd-1bea-4fe5-9aac...	July 15, 2011 7:02:48 AM	July 15, 2011 7:21:41 AM	ACME	2	July 15, 2011 7:02:47 AM	Widgets	2	July 15, 2011 12:00:00 AM	Test Order 1	true	18 m, 52.876 s
66bf0abd-1bea-4fe5-9aac...	July 15, 2011 7:25:37 AM		Insta Corporation	2	July 15, 2011 7:25:37 AM	Network Cards	12	July 15, 2011 12:00:00 AM	Please ship ASAP.	false	

1 - 2 2

__6. The OrderFulfillment KPIs page shows in table view all of the KPIs that have been generated. You can see the data that has accumulated.

https://localhost...r.useractEventData x https://localhost...l2MMAApplication x W6MonitorV62_UDFlab.pdf (applic... x Order Fulfillment KPIs x Google News

Home Go to Spaces Manage Spaces Actions

POTBuildFromScratch_Main 20110715-065250

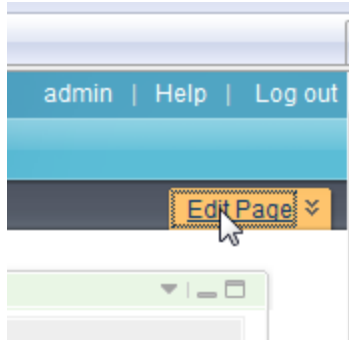
Order Fulfillment Instances Order Fulfillment KPIs Order Fulfillment Reports Order Fulfillment Diagrams

Order Fulfillment KPIs

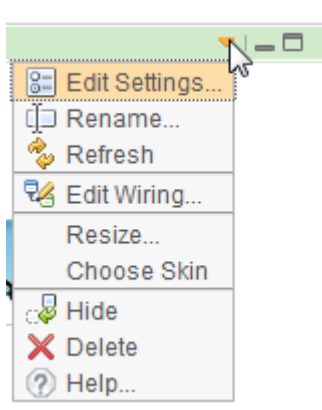
KPI Name	Status	Value	Target	Actions	Value in Range
Create Order Average Cost		0	100		
Create Order Average Execution Time (Clock)		6 m, 23.5 s	30 m, 0 s		
Create Order Average Labor Cost		0	100		
Create Order Average Resource Cost		0	100		
Create Order Average Rework (percent true)		0%			
Create Order Average Total Time (Clock)		7 m, 1 s	30 m, 0 s		
Create Order Average Value Add (percent true)		100%			
Create Order Average Wait Time (Clock)		36.5 s	0 s		
Create Order Count		2			
End Count		1			
Manager End Count		0			
Manager Review Average Cost			100		
Manager Review Average Execution Time (Clock)			30 m, 0 s		
Manager Review Average Labor Cost			100		
Manager Review Average Resource Cost			100		
Manager Review Average Rework (percent true)					
Manager Review Average Total Time (Clock)			30 m, 0 s		
Manager Review Average Value Add (percent true)					
Manager Review Average Wait Time (Clock)			0 s		
Manager Review Count		0			
Manager Review? Average Cost			100		

__7. You can experiment with how the KPIs display by putting the page into edit mode and then changing the settings for the widget:

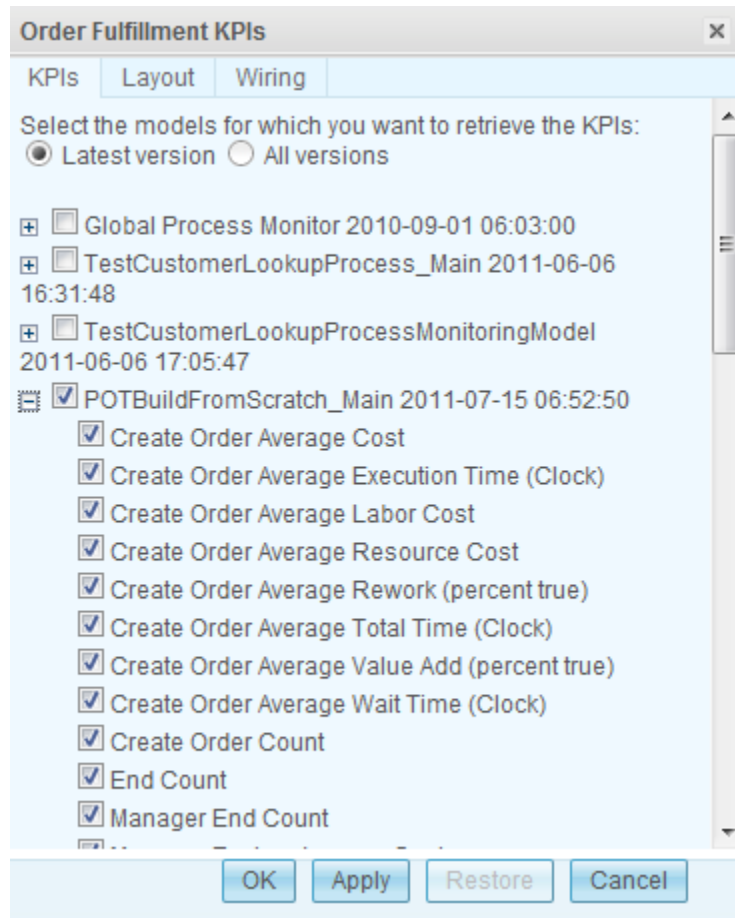
__8. Select Edit Page



__9. From the widget select Edit Settings



__10. From here you can be discriminatory about which KPIs get displayed and specify a layout.



- __11. In the layout tab you can change the way that your KPIs are displayed. Perhaps you prefer gauges instead of the table view. Change the layout to Grid, columns to 10 and the refresh rate to 15 seconds.
- __a. Press OK

Order Fulfillment KPIs

Order Fulfillment KPIs

Half Gauge

Select a layout:
Grid

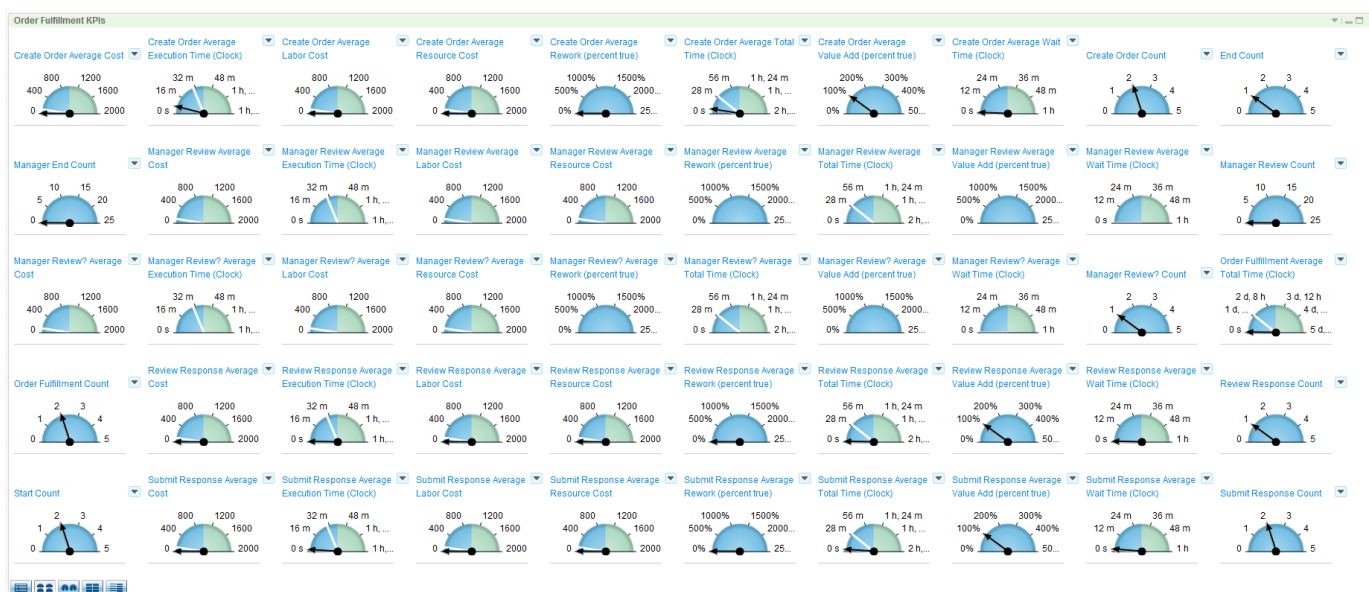
☐ Hide display buttons

Columns:
10

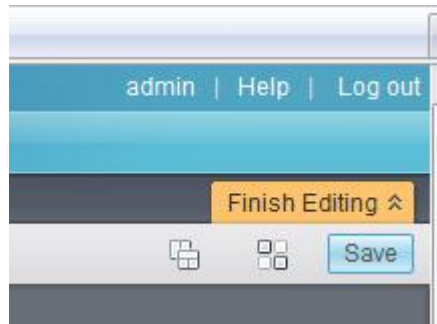
Select a size for visualization elements:
Small

* Refresh rate (in seconds):
15

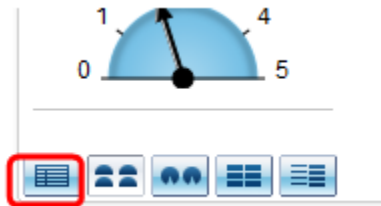
OK Apply Restore Cancel



Save your settings to the Business Space page by pressing Save in the upper right hand corner and then select Finish Editing.



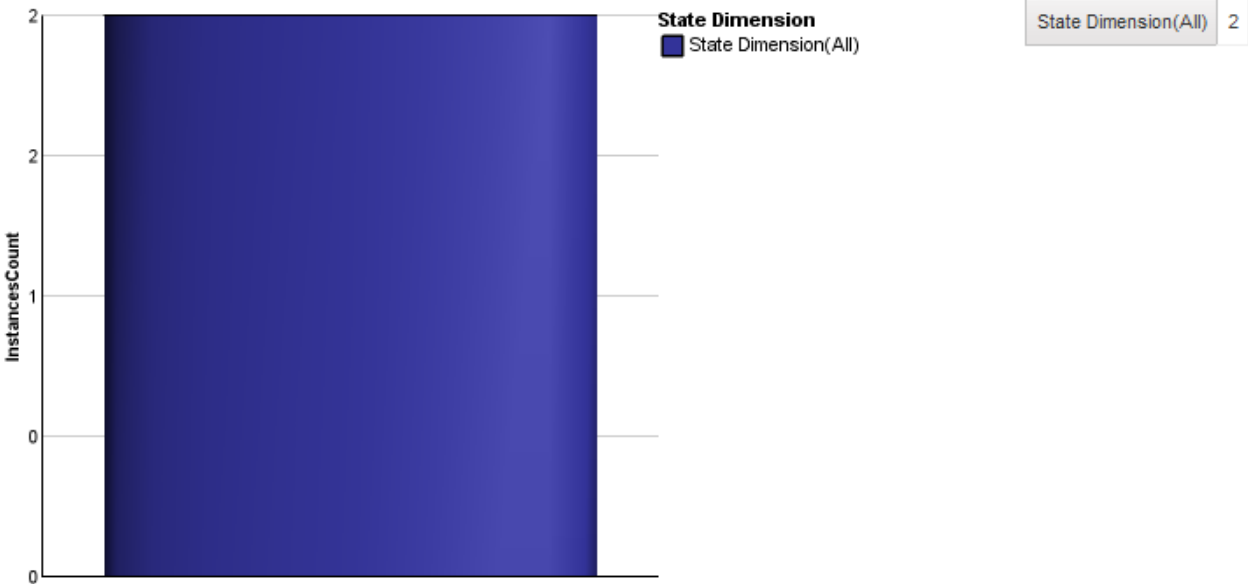
__12. You can go back to the list-view quickly by pressing the shortcut icon on the bottom left of the space.



__13. Open the OrderFulFillment Reports by clicking on the Tab.

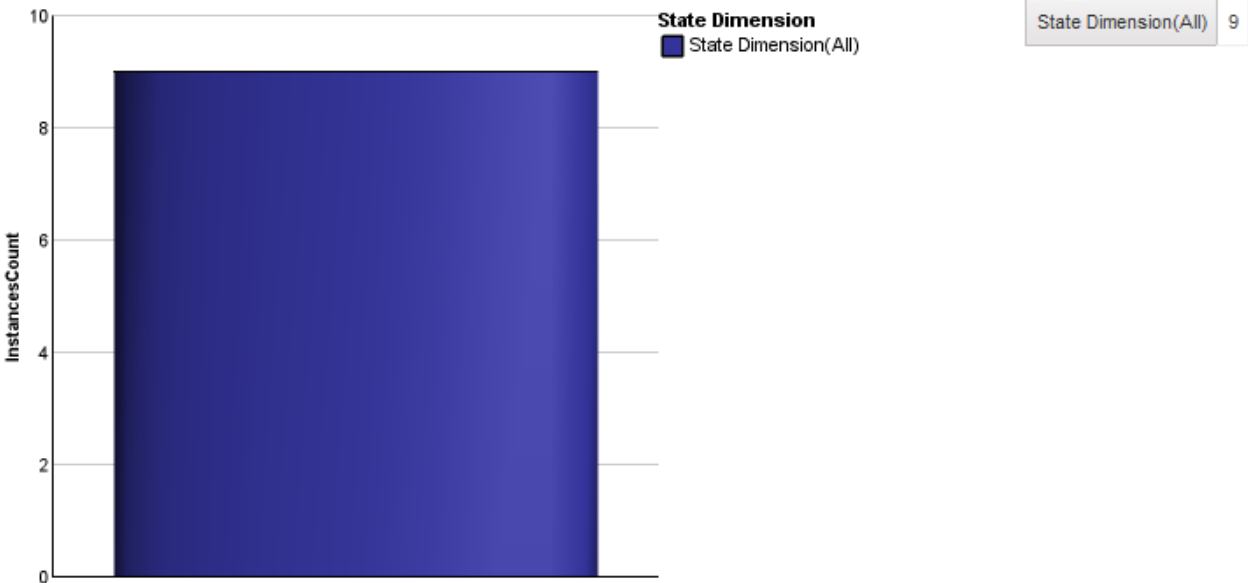
Order Fulfillment Dimensions

Order Fulfillment Report

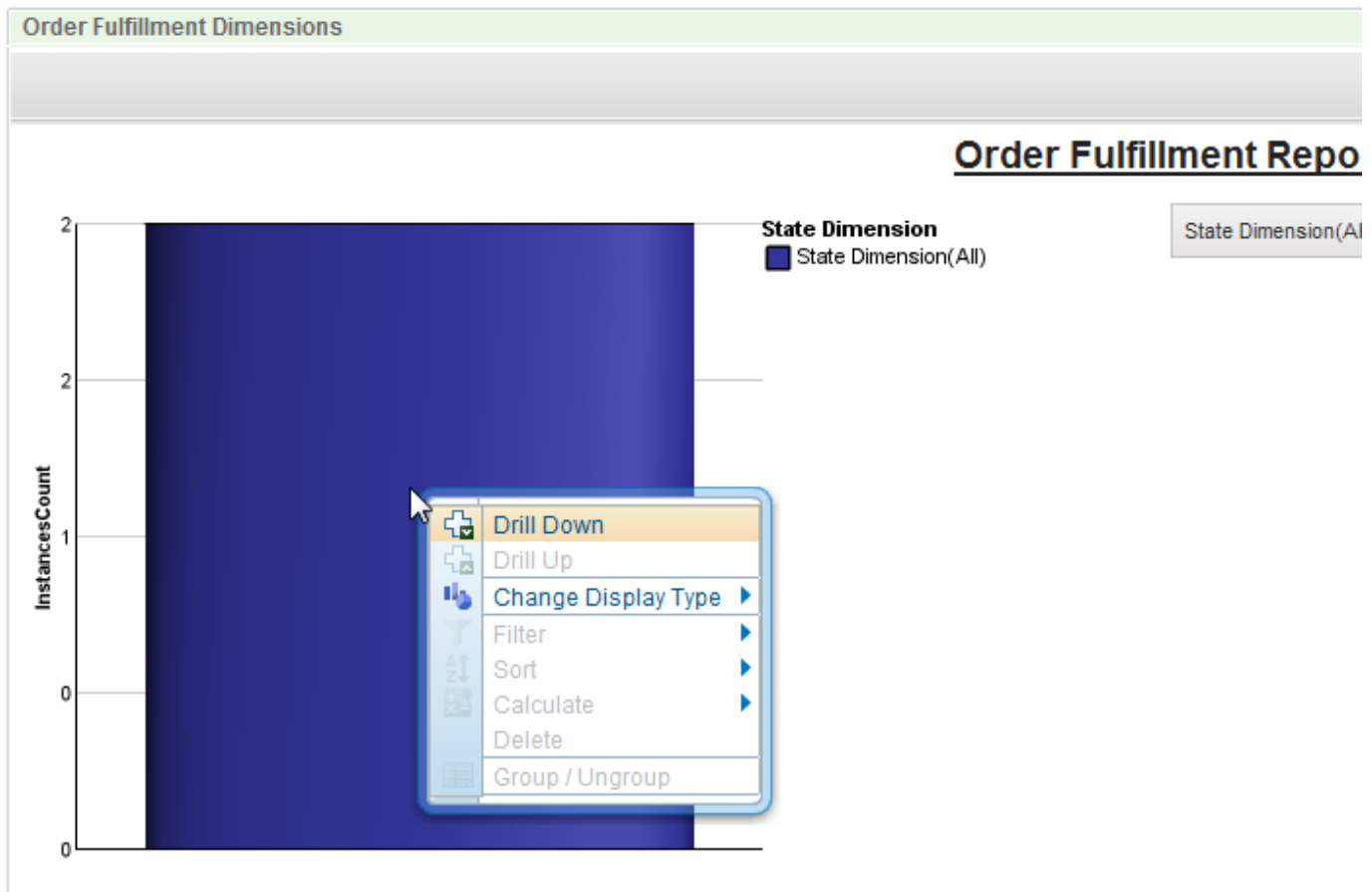


Order Fulfillment Steps Dimensions

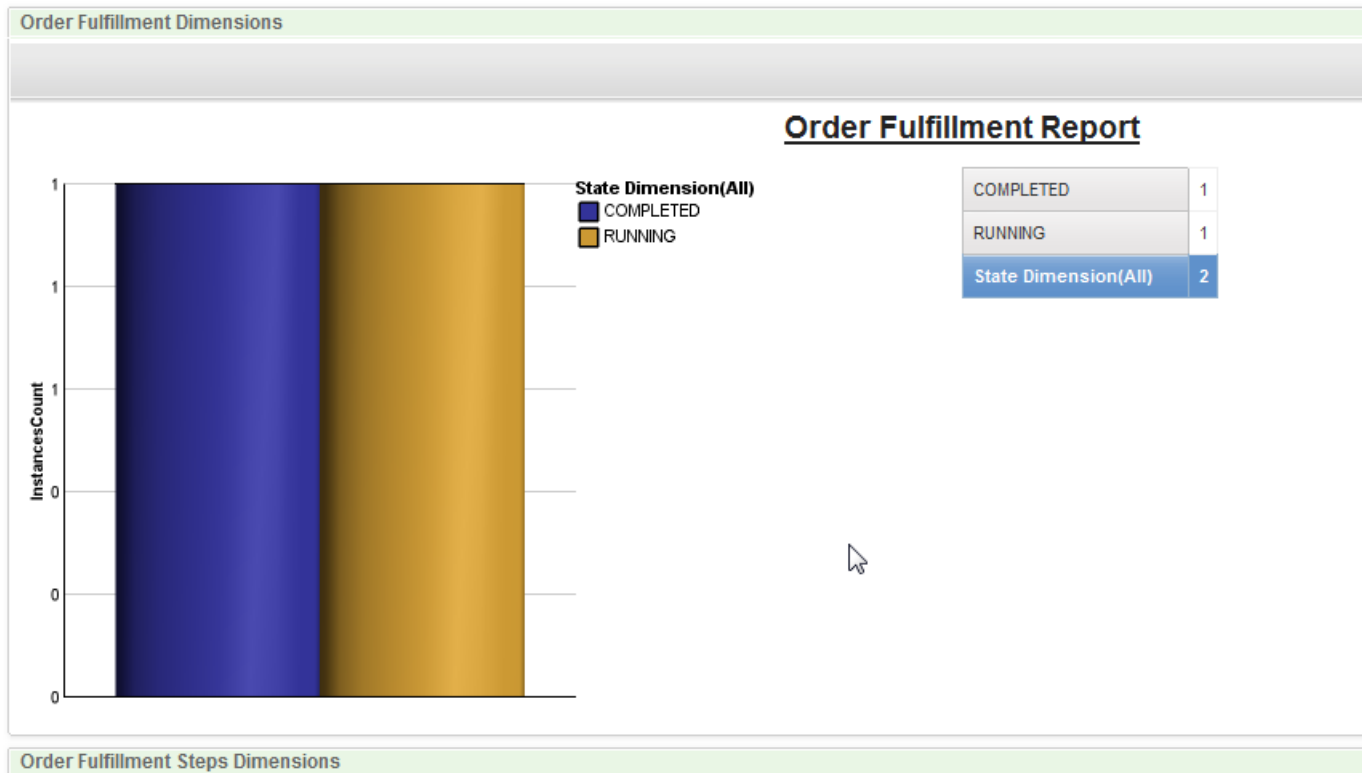
Order Fulfillment Steps Report



- ___14. The OrderFulfillment Reports page shows Cognos views of the dimensional data that has been generated. You can drill down into the reports by right clicking on one of the bars.

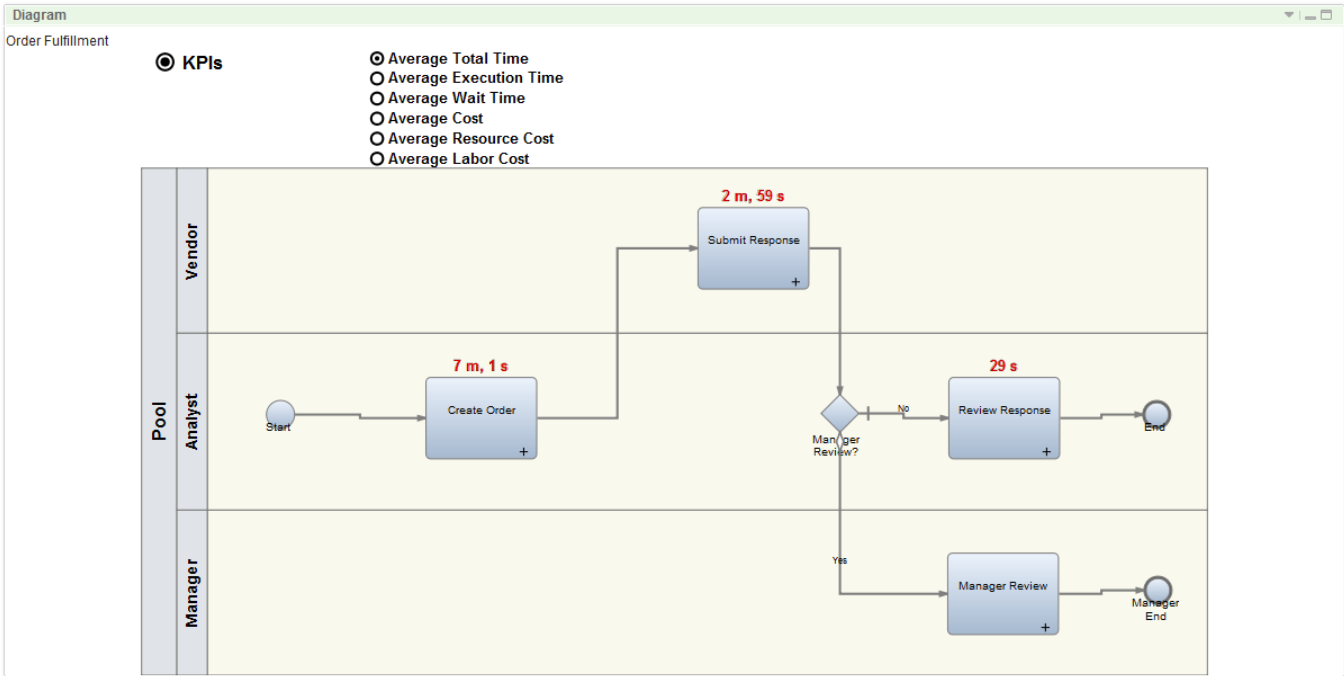


Drilling down on the Order Fulfillment Report shows that there is one process completed and another still running:



__15. Open the OrderFulfillment Diagrams page:

Here you will see some of the KPIs on a diagram of the process. By clicking on the different radio buttons you will see the various KPIs as they pertain to each activity.



11.6 Out-of-the-Box Monitoring Provided with IBM BPM 7.5

We will now take a look at Process Data Warehouse to see what data has been collected there. This is the monitoring capability that is provided out-of-the-box with IBM BPM 7.5.

__16. Bring up the Process Portal in a Web browser by going to <http://localhost:9080/portal>

The screenshot shows the IBM Process Portal interface. On the left is a navigation menu with 'My Tasks' (Inbox, History, Help Requests, Alerts) and 'My ScoreBoards' (My Performance, My Team Performance, Process Performance, SLA Overview, Ad Hoc Reports). The main area is titled 'Inbox' and contains a search bar and a table of process instances.

Instance Name	Process Definition	Instance Due Date	Task Subject	Task Priority	Task Due Date	Run
TestCustomerLookupProcess:205	TestCustomerLookupProcess	Jul 27, 2011 11:01:45 AM	Step: test Input	Normal	Jul 13, 2011 12:02:42 PM	▶
TestCustomerLookupProcess:206	TestCustomerLookupProcess	Jul 27, 2011 11:25:58 AM	Step: test Input	Normal	Jul 13, 2011 12:26:42 PM	▶
TestCustomerLookupProcess:207	TestCustomerLookupProcess	Jul 27, 2011 11:31:14 AM	Step: test Input	Normal	Jul 13, 2011 12:35:54 PM	▶
TestCustomerLookupProcess:209	TestCustomerLookupProcess	Jul 27, 2011 12:06:25 PM	Step: test Input	Normal	Jul 13, 2011 1:09:12 PM	▶
TestCustomerLookupProcess:208	TestCustomerLookupProcess	Jul 27, 2011 11:51:14 AM	Step: test Input	Normal	Jul 13, 2011 1:09:17 PM	▶
TestCustomerLookupProcess:210	TestCustomerLookupProcess	Jul 27, 2011 12:11:36 PM	Step: test Input	Normal	Jul 13, 2011 1:12:23 PM	▶
TestCustomerLookupProcess:211	TestCustomerLookupProcess	Jul 27, 2011 12:13:59 PM	Task: Get Customer Information	Normal	Jul 13, 2011 1:13:59 PM	▶
TestCustomerLookupProcess:212	TestCustomerLookupProcess	Jul 27, 2011 12:14:09 PM	Step: test Input	Normal	Jul 13, 2011 1:14:56 PM	▶
TestCustomerLookupProcess:213	TestCustomerLookupProcess	Jul 27, 2011 12:44:27 PM	Step: test Input	Normal	Jul 13, 2011 1:45:25 PM	▶
TestCustomerLookupProcess:214	TestCustomerLookupProcess	Jul 27, 2011 1:18:47 PM	Task: Get Customer Information	Normal	Jul 13, 2011 2:18:47 PM	▶
TestCustomerLookupProcess:253	TestCustomerLookupProcess	Jul 27, 2011 2:51:59 PM	Step: test Input	Normal	Jul 13, 2011 3:54:20 PM	▶
Order Fulfillment:304	Order Fulfillment	Jul 29, 2011 7:25:37 AM	Task: Submit Response	Normal	Jul 15, 2011 8:26:59 AM	▶

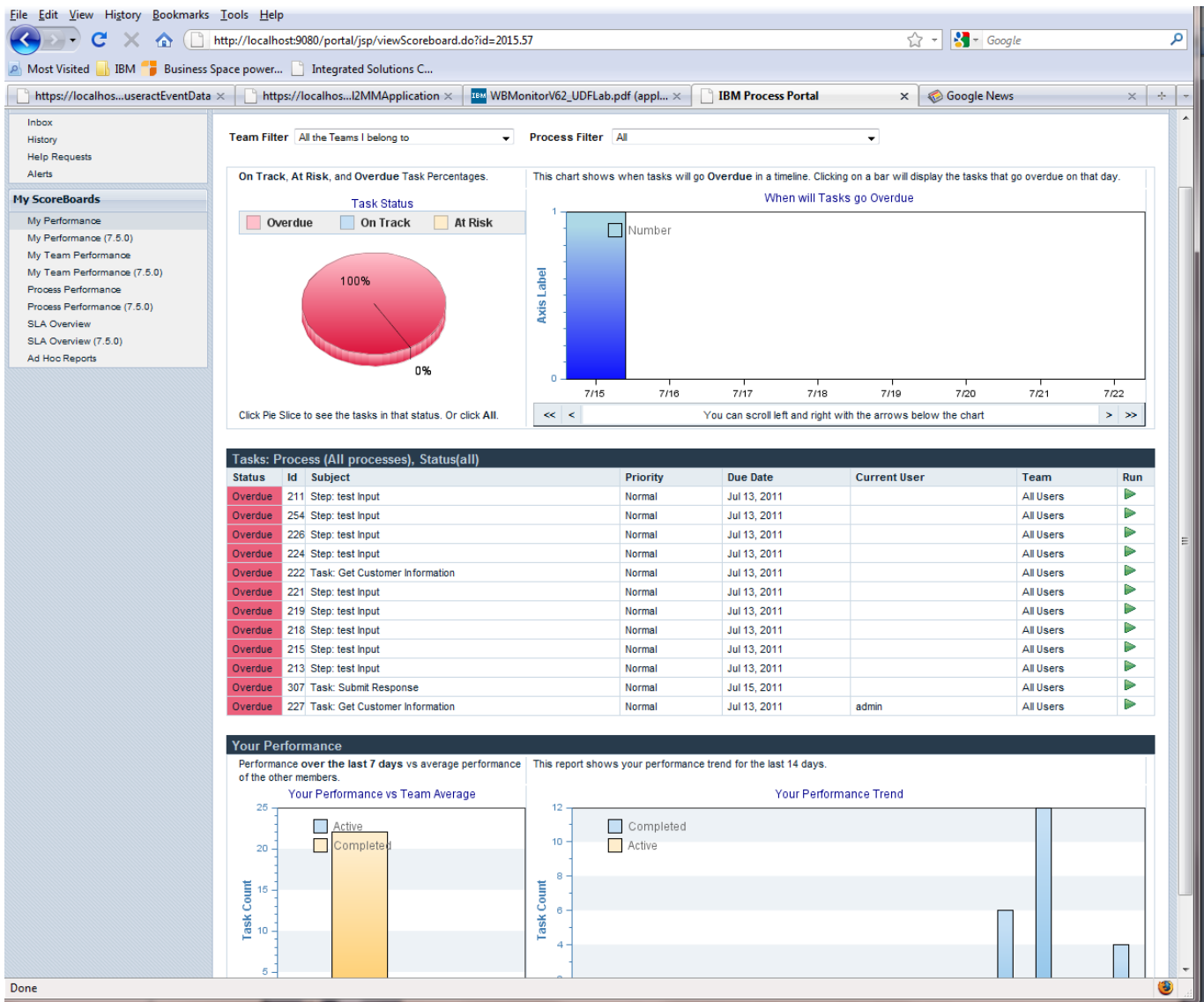
__17. By clicking on each of the menu options on the left different reports will be shown. The one above shows each active process instance. The process may be selected and run from this screen.

- ___18. The History view shows all process instances completed and active. Each of the entries in the columns is hyperlinked and can be selected to see more detail about the instance and run the task if it is not complete. The list can be sorted by task and a search option is also available.

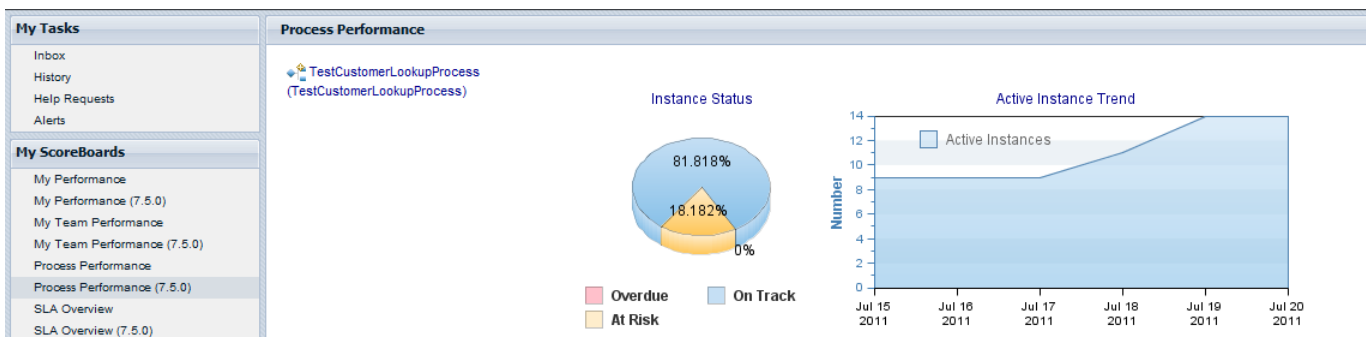
The screenshot shows the IBM Process Portal interface. The left sidebar contains 'My Tasks' (Inbox, History, Help Requests, Alerts) and 'My ScoreBoards' (My Performance, My Team Performance, Process Performance, SLA Overview, Ad Hoc Reports). The main area is titled 'History' and contains a search bar and a table of process instances.

Instance Name	Process Definition	Instance Status	Task Subject	Task Priority	Task Due Date	Run
TestCustomerLookupProcess:108	TestCustomerLookupProcess	Completed	Task: Get Customer Information	Normal	Jun 9, 2011 3:22:27 PM	
TestCustomerLookupProcess:153	TestCustomerLookupProcess	Completed	Task: Get Customer Information	Normal	Jul 12, 2011 3:42:11 PM	
TestCustomerLookupProcess:203	TestCustomerLookupProcess	Completed	Task: Get Customer Information	Normal	Jul 12, 2011 7:33:01 PM	
TestCustomerLookupProcess:204	TestCustomerLookupProcess	Completed	Task: Get Customer Information	Normal	Jul 13, 2011 11:35:16 AM	
TestCustomerLookupProcess:205	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 12:01:48 PM	
TestCustomerLookupProcess:206	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 12:25:58 PM	
TestCustomerLookupProcess:207	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 12:31:15 PM	
TestCustomerLookupProcess:208	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 12:51:14 PM	
TestCustomerLookupProcess:209	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 1:06:26 PM	
TestCustomerLookupProcess:210	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 1:11:36 PM	
TestCustomerLookupProcess:212	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 1:14:09 PM	
TestCustomerLookupProcess:213	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 1:44:28 PM	
TestCustomerLookupProcess:253	TestCustomerLookupProcess	Active	Task: Get Customer Information	Normal	Jul 13, 2011 3:52:02 PM	
Order Fulfillment:303	Order Fulfillment	Completed	Task: Create Order	Normal	Jul 15, 2011 8:05:31 AM	
Order Fulfillment:304	Order Fulfillment	Active	Task: Create Order	Normal	Jul 15, 2011 8:25:37 AM	

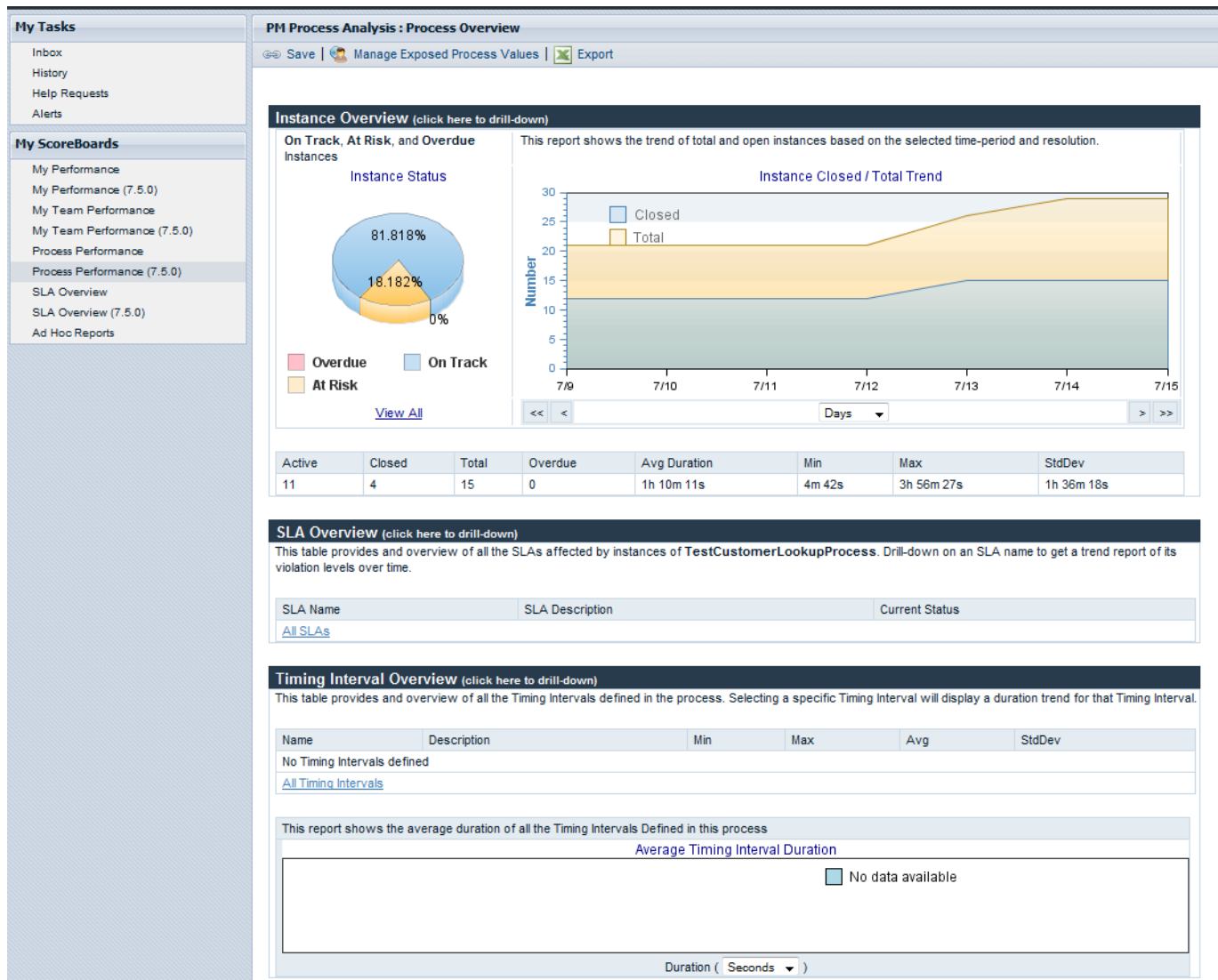
- ___19. If Alerts have been turned on in the process, they will appear under the Alerts section.
- ___20. My performance will show how the logged in user has performed on completing tasks:



- ___21. If the user is a member of a team then performance metrics are available for the team. We have not set things up in this lab to show team data in the My Team reports.
- ___22. The process performance option will show performance statistics for each process.



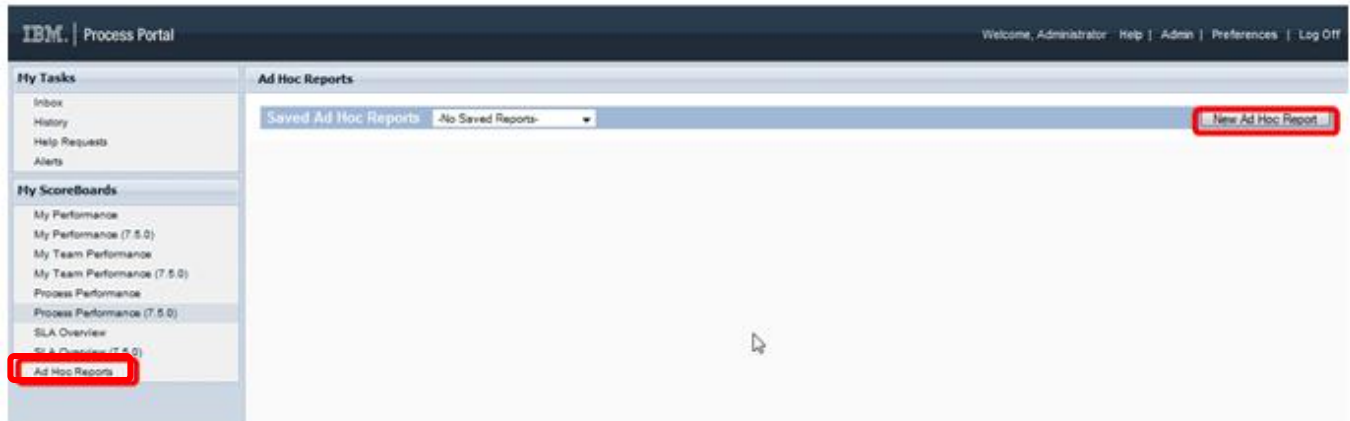
__23. Drilling down on the link on the upper left will reveal more detailed performance metrics.



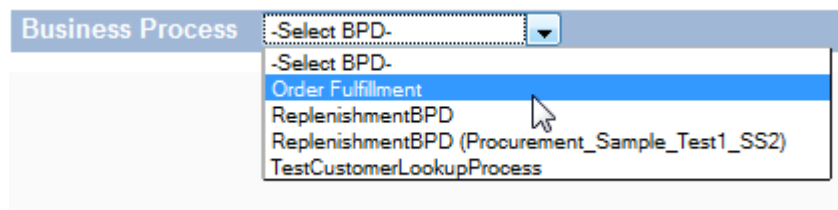
__24. We have not prepared Service Level Agreement levels to be viewed in this lab.

__25. Ad hoc reports can be created using data from the Process Data Warehouse. You will have many options to select and view data. We will show you how to view the distribution of orders for customers. You may play with the report tool to see how you can display information in a variety of different ways. When you have a report that you like you may save it so that you don't have to reconfigure it later

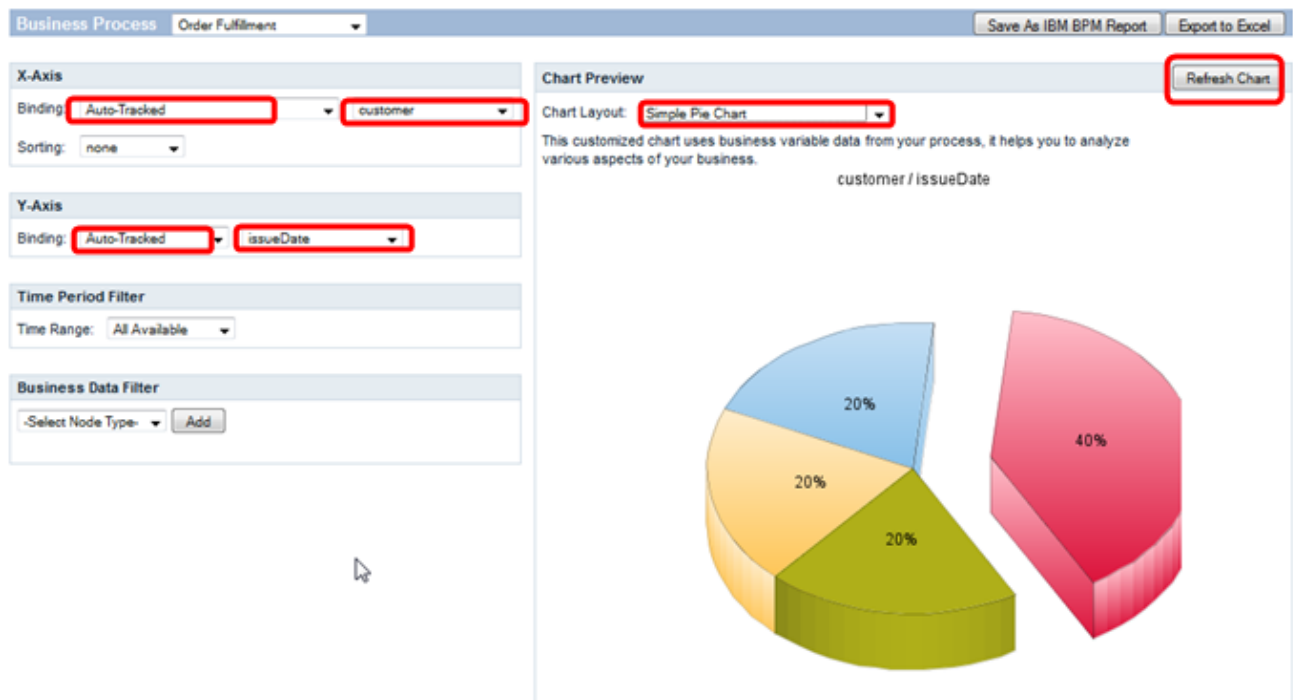
__26. Select Ad Hoc Reports from the menu on the left. Then click Add new Ad Hoc report on the right



__27. From the scroll down select Order Fulfillment



__28. Make the changes to match the highlighted selections in the diagram below and then press the refresh button. You will want to have at least 4 or 5 orders for different companies to make the chart look interesting.



__29. Save this chart and if you have time create some other reports.

__30. This completes the lab